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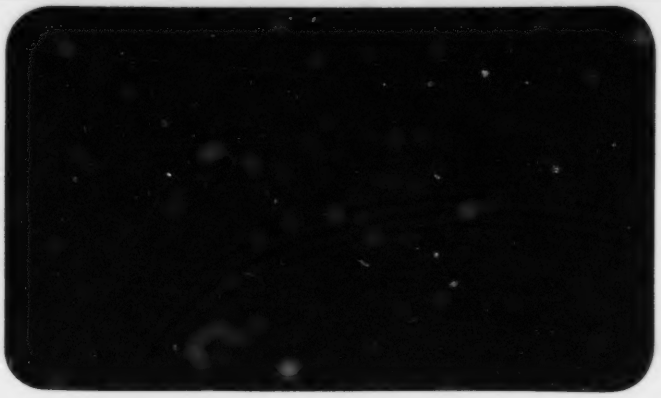

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REPORT
OF THE THIRD
HOUSEHOLD HAZARDOUS WASTE DAYS
WINNIPEG, MB
1988

Prepared for
the HHWD Organizing Committee representing:

- Environment Canada
- Manitoba Environment and Workplace Safety and Health
- Manitoba Hazardous Waste Management Corporation
- the City of Winnipeg
- the Biomass Institute, and
- the Manitoba Environmental Council

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February, 1989

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1.0 FORWARD

On June 2, 3, and 4, 1988 the third annual Household Hazardous Waste Days were held at the Fort Osborne Complex, 139 Tuxedo Boulevard, in Winnipeg. The principal objective of the undertaking was to increase public awareness of the impacts which arise from improper disposal of hazardous materials and to introduce alternative, safe disposal practices.

Held in conjunction with Canada's National Environment Week for the past three years, this project offers a free public collection service for hazardous household materials and ensures recycling, and/or proper treatment and disposal for materials received.

On Saturday, June 4, a one-day recycling depot was also held in conjunction with the waste collection activities. However, this summary will specifically address the waste collection depot.

The Manitoba Hazardous Waste Management Corporation participated in Household Hazardous Waste Days for the first time in 1988. Technical, volunteer and financial support was provided by the Corporation, Environment Canada, the Province of Manitoba and the City of Winnipeg. The project was administered by a committee representing all sponsors including the Manitoba Environmental Council and the Biomass Institute.

2.0 ATTENDANCE

The success of Household Hazardous Waste Days can be measured in terms of attendance, and attendance can be best supported by completed participant questionnaires. Attendance levels of 538 in 1988 exceeded records of 353 in 1986 and 210 in 1987 (see **Appendix A, Table 1**). This achievement may be attributed in part to increased promotion, advertising and/or mounting public concern towards the hazardous waste issue.

Questionnaires collected each of the three days were tallied and recorded (**Appendix A, Table 2**). Attendance amounted to 103 persons on day 1, 130 persons on day 2 and 305 persons on day 3. Approximately 22 participants arrived outside the hours of operation and did not complete questionnaires.

3.0 GEOGRAPHICAL DISTRIBUTION OF PARTICIPANTS

A study has been conducted to determine the geographical distribution of 1988 Household Hazardous Waste Days participants, and the distances travelled to utilize the collection service. Following a free draw at the conclusion of HHW Days the entry form ballots became the data base for this analysis.

Individual street names were sorted in alphabetic order and coded according to their respective Manitoba Real Estate Board (MREB) Winnipeg Residential Street

Atlas 1987-88 district. Use of a condensed MREB district map necessitated summing regional data. Once this step was complete, a colour-coded scale was devised and data were mapped.

Portrayed in Figure 1 by grey, dark green and light green, there is a distinct trend of high participation from the west of Winnipeg north and south of the Assiniboine River and along the Red River to the south. The highest number of participants, however, came from the districts of Charleswood and River Heights. The theory of least distance is the most probable explanation for these high values, although socio-economic factors may play an important role.

In the central portion of Figure 1, arcing northeastward from St. Boniface and downtown, there is a band of low frequency districts (light pink). In addition to the increasing physical distance from the collection site, socio-economic demographics such as low income/rental properties, may affect the trend.

Figure 1 also indicates a thin band of moderately low frequency (dark pink) which arcs slightly northeastward from Windsor Park. Although the three areas are further away from the site than the low frequency belt, in this case, socio-economic factors may have a positive influence on the results and increased participation. All three zones are primarily residential, single-family dwellings.

The final trend is of low frequency in North Kildonan, East Kildonan and Transcona on the eastern portion of the map (light pink). Distance is likely the principal reason for low representation from this part of the city.

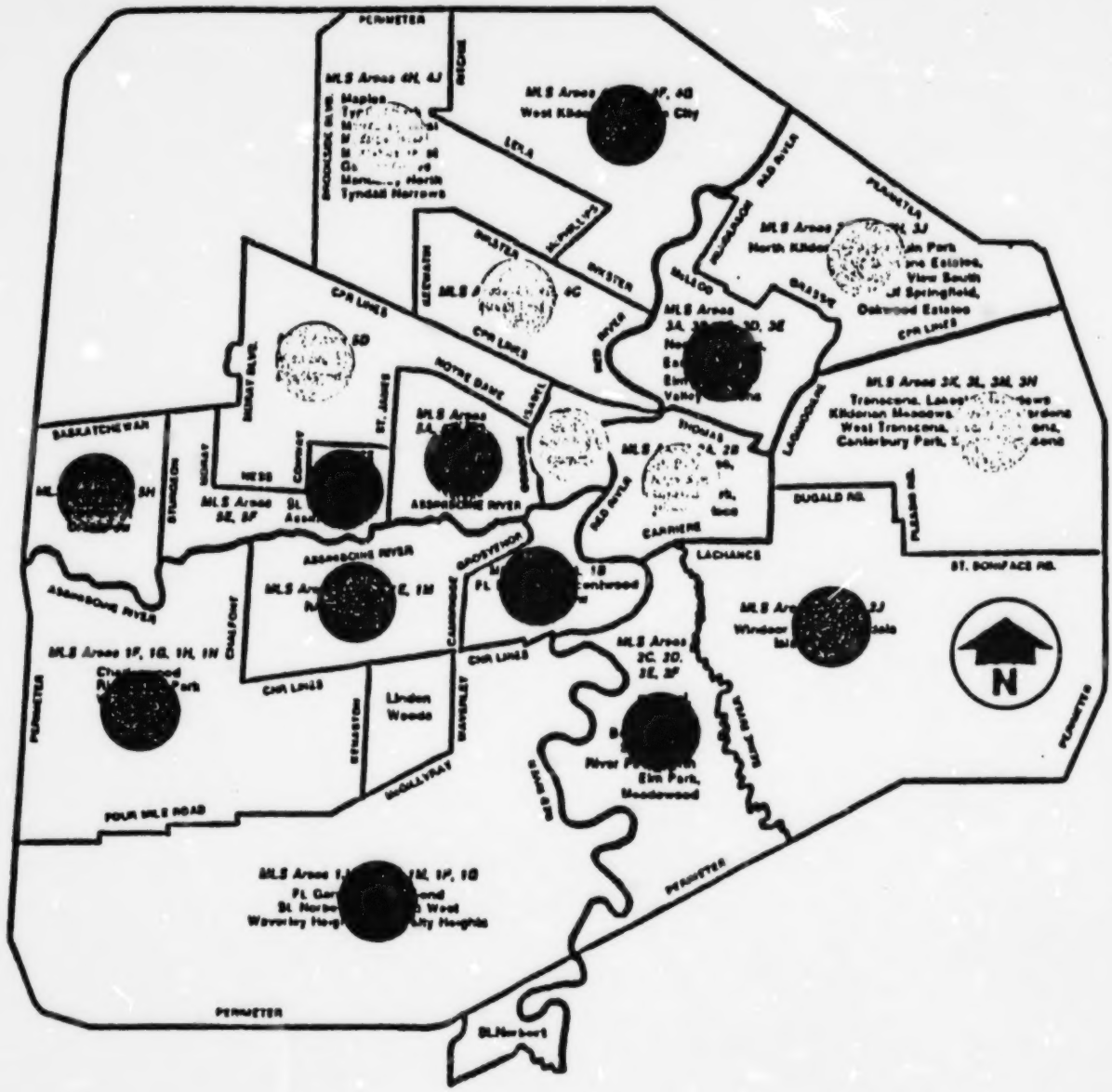
4.0 QUESTIONNAIRE ANALYSIS

In 1988, every person who brought hazardous waste to the collection depot during the advertised hours of operation completed a participant questionnaire. An analysis of this data base provides interesting statistics about the participant's interest in, and knowledge of, hazardous waste management (**Appendix A, Table 3**).

TABLE 1 PERCENTAGE OF PARTICIPANTS BY DAY

DATE	NUMBER OF QUESTIONNAIRES	PERCENT OF TOTAL
JUNE 2	104	19%
JUNE 3	130	24%
JUNE 4	304	57%

Table 1 summarizes the number of questionnaires converted to percentage of participants over the three day period. June 2nd attracted 19% of the total participants, which increased to 24% on day two and culminated at 57% on day three. Some of the participants on Saturday, June 4 may be attributed to joint participation in a Manitoba Recycling Council recycling depot which operated simultaneously with the waste collection service.



Legend

<10 participants

11 - 20 participants

21 - 40 paticipants

41 - 60 participants

>= 61 participants

Map Source: The Winnipeg Real Estate Board. 1987. Winnipeg Residential Street Atlas 1987-88.

FIGURE 1

Various media were used to promote HHW Days in 1988. As indicated in Appendix A, Table 3, most participants heard of the project through radio advertisements and public service announcements (43%). Following in descending order of frequency were: television news coverage and public service announcements (10%), word of mouth (9%), other means not specified (9%), flyers (6%), posters (5%), moving companies (.9%) and through store notices (.6%). These results will help to determine an advertising strategy for subsequent HHW collection depots.

Respondents were asked if they had participated in HHW Days in the past. Of the sample population, 79% had not participated in the waste depot before, whereas 21% had participated at least one time before.

In Question 3, participants were asked about their knowledge of household hazardous waste. Eighty percent (80%) of respondents could identify household hazardous wastes; however, it is worth noting that some individuals did not feel compietely aware of all hazardous materials in the home.

Participants were asked if they knew whether it was improper to dispose of hazardous wastes in the sewer, garbage or sink. Of the respondents, 84% indicated that they did know that this was an unsatisfactory means to dispose of hazardous material.

Question 5 addressed the important issue of depot frequency. In this case, 230 persons indicated that they would appreciate monthly service, 201 individuals favored a bi-annual depot, 60 respondents indicated a preference for annual collection and 26 participants remarked that they would favor weekly availability. Some individuals suggested that quarterly service would be sufficient.

Participants were asked to consider four different alternatives for future household hazardous waste facilities. Participants favored a weekend depot 78%, with 64% willing to utilize a depot if it was further away from the Fort Osborne location. As expected, 59% disagreed with the principle of paying for the service; however, most participants stated that they would consider a minimal charge.

In Question 7, 87% of the participants indicated that concern for the environment was the greatest reason for supporting the waste collection depot, whereas concern for health rated 58%. In addition, responses included safety, threat of fire and danger to small children.

Question 8 asked participants to indicate how they acquired the waste brought to the depot. The most common response was no further use (61%), with spring clean-up (37%), too much quantity (13%) and moving (10%) in descending order of frequency.

In the final question of the survey, participants were asked to provide their opinions regarding safe alternatives for dangerous household goods. The majority of respondents indicated that they would use less hazardous remedies if they knew what to buy (82%), 77% would be willing to use alternative products if they cost the same, and 59% of the respondents would use non-toxic alternatives even if they were more inconvenient to use.

5.0 ADVERTISING AND PROMOTION

The organizing committee undertook an ambitious advertising and promotional campaign in 1988 which included radio, television and print media, poster/notices and signs, and participation in special events. **Table 4** in **Appendix A** summarizes media coverage of Household Hazardous Waste Days.

Posters were distributed to many public facilities and private businesses directly, or through head office/internal distribution (**Appendix A, Table 5**). The committee also arranged to rent a portable electric sign on the corner of Kenaston Boulevard and Tuxedo Avenue from May 30 to June 5. The contracted waste disposal company, AL-TEC Waste Systems Ltd., donated a colourful (3'X12') banner which was used prior to and during the three day event.

On May 28, two volunteers from the Corporation manned a special booth promoting Household Hazardous Waste Days at the Celebrate the Environment Concert, sponsored by the Winnipeg Folk Festival. Although attendance was moderate, the volunteers were able to spend time discussing hazardous waste management with interested citizens and government officials, and in general, encourage the public to participate.

6.0 WASTE COLLECTION AND DISPOSAL

Household hazardous waste received at the 1988 collection depot was identified and sorted by volunteers to determine whether the material could be recycled, or if it required lab packing or bulking for ultimate treatment and disposal. Table 2 outlines the type of waste which was shipped by the contracted hazardous waste carrier for proper disposal. Table 3 provides approximate volumes of recycled waste.

TABLE 2 VOLUME OF WASTE SHIPPED FOR DISPOSAL

WASTE TYPE	VOLUME
BULK FLAMMABLE LIQUIDS	1,600 l.
BULK PESTICIDE	200 l.
CHLORINATED SOLVENT	575 l.
36 LAB PACKS (vol = ~80 L. ea)	2,880 l.
	TOTAL: 5,255 l.

(* lab packs contained miscellaneous household acids, bases and toxic products)

TABLE 3 APPROXIMATE VOLUME OF RECYCLED WASTE

WASTE TYPE	VOLUME
WASTE OIL	2,045 l.
LATEX PAINT	300 l.
KEROSENE AND GASOLINE	200 l.
TOTAL:	2,545 l.
LEAD-ACID BATTERIES	66 units

7.0 PROJECT EXPENSES

7.1 General

Table 4 summarizes the expenses incurred by the 1988 Household Hazardous Waste Days project in Winnipeg.

TABLE 4 SUMMARY OF 1988 HHW DAY EXPENSES

CATEGORY	ITEM	COST	TOTAL
ADVERTISING	RADIO	4,792.00	
	NEWSPAPER	2,840.90	
	AD PRODUCTION	600.00	
	MOBILE SIGN	85.60	
			$8,318.50
SUPPLIES	EQUIP. RENTAL	1,022.85	
	SUPPLIES & MATERIALS	2,463.40	
			$3,486.25
PROJECT ADMIN & OH		1,500.00	
LAB ANALYSIS		1,695.25	
WASTE DISPOSAL		11,612.50	
			$14,807.75
TOTAL COSTS (excluding salaries of volunteer labour)			$26,612.50

7.2 Selection of 1988 Canadian Hazardous Waste Disposal Costs

Over the course of 1988, the Alberta Special Waste Management Corporation hosted a pilot household hazardous waste collection program throughout Alberta. Held in 8 communities ranging in size from 875 to 5,400 people, waste collected totalled 34 Tonnes or approximately 202 45-Gal drums, at a total treatment cost of $64,000.00. In the same year one 3-day event held in Edmonton yielded 30 Tonnes of domestic hazardous waste at a total treatment cost of $62,000.00, including transportation.

Over two successive Environment Week Saturdays, the City of Regina held its first Household Hazardous Waste Collection in 1988. Three hundred and fifty individuals brought a total of approximately 7,790 L. (38 45-gal drums) of toxic waste to the depot. Disposal costs totalled $9,905.00.

7.3 The impact of volunteer labour

In Ontario the average cost per participant for a community-based household hazardous waste project is at least $150.00, according to Bill Armstrong of Energy Pathways Inc. The Ontario Waste Management Corporation provides grants to communities to a maximum of $10,000.00 in support of community-based collection depots. Communities contract with private waste management companies for the handling, transportation, storage and disposal of wastes collected.

Although the communities recruit volunteers, all technical and professional personnel are paid employees of the contracted firm; therefore costs can escalate depending upon the community's response to the project and the waste received. In comparison, the total cost of the 1988 Winnipeg project was $26,612.50, or $49.46 per participant.

8.0 SUMMARY

Based on the success of this year's project, the Corporation in cooperation with Manitoba Environment and Workplace Safety and Health, Manitobans and interested groups, is exploring the potential for expanding the Household Hazardous Waste Program in 1989. Possible activities include additional Household Hazardous Waste collection projects in Winnipeg and other urban centres, participation in community clean-up activities in rural areas, and establishment of a year-round drop-off depot.

The first community sponsored initiative was held in Snow Lake on Saturday, October 22, 1988. The Corporation provided technical assistance and disposal services.

REPORT OF THE
1988 WINNIPEG HOUSEHOLD HAZARDOUS WASTE DAYS

APPENDIX A

TABLES

TABLE 1 THREE-YEAR ATTENDANCE PROFILE

YEAR	COMPLETED QUESTIONNAIRES
1986	353
1987	210
1988	538

TABLE 2 1988 ATTENDANCE PROFILE

DATE	COMPLETED QUESTIONNAIRES
JUNE 2, 1988	103
JUNE 3, 1988	130
JUNE 4, 1988	305

APPENDIX A - TABLE 3
1988 HOUSEHOLD HAZARDOUS WASTE QUESTIONNAIRE
SURVEY ANALYSIS

SURVEY QUESTION	DESCRIPTION	VARIABLE	TOTAL YES	TOTAL NO	TOTAL RESPONSES	TOTAL % YES	TOTAL % NO
1	KNOWLEDGE OF HHW DAYS	FLYER	34	504	538	6	94
		FRIEND	51	487	538	9	91
		RADIO	229	309	538	43	57
		TV	53	485	538	10	90
		POSTER	26	512	538	5	95
		MOVING CO.	5	533	538	1	99
		NEWSPAPER	265	273	538	49	51
		STORE	3	535	538	1	99
		ANY OTHER	50	488	538	9	91
2	PREVIOUS PARTICIPATION IN HHWD		115	423	538	21	79
3	WHAT IS A HHW		430	108	538	80	20
4	KNOW ABOUT UNSAFE DISPOSAL		452	86	538	84	16
5	FREQUENCY OF HHW DISPOSAL SERVICE	WEEKLY	26	N/A	N/A	N/A	N/A
		MONTHLY	230	N/A	N/A	N/A	N/A
		BI-ANNUALLY	201	N/A	N/A	N/A	N/A
		ANNUALLY	60	N/A	N/A	N/A	N/A
	** SOME PARTICIPANTS SUGGESTED QUARTERLY SERVICE						
6	USE OF SERVICE IN FUTURE	FURTHER AWAY	345	193	538	64	36
		OPEN - WEEKEND	420	118	538	78	22
		OPEN - BUS HRS	217	321	538	40	60
		PAY FOR SERVICE	222	316	538	41	59
7	SPECIAL EFFORT TO PARTICIPATE	HEALTH	311	227	538	58	42
		ENVIRONMENT	468	70	538	87	13
8	HOW DID YOU FIND THE WASTE	SPRING CLEAN UP	199	339	538	37	63
		NOT REQUIRED	327	211	538	61	39
		MOVING	56	482	538	10	90
		TOO MUCH	72	466	538	13	87
9	USE OF LESS TOXIC ALTERNATIVES	COST THE SAME	415	123	538	77	23
		WHAT TO BUY	444	94	538	83	17
		INCONVENIENT	319	219	538	59	41

N.B. MEMO FIELDS ARE NOT PORTRAYED IN THIS CHART.

TABLE 4 PROMOTIONAL CAMPAIGN

MEDIA TYPE	NUMBER
NEWSPAPER ADVERTISEMENTS	7
NEWSPAPER ARTICLES	6
RADIO ADVERTISEMENTS (1)	107
RADIO SHOWS/INTERVIEWS	3
TELEVISION ADVERTISEMENTS	0
TELEVISION SHOWS/INTERVIEWS (2)	5
TOTAL	128

(1) excludes radio PSA's
(2) approximate number of t.v. news interviews:
2 - 13 MTN; 1 - CKND; 1 - CKY; 1 - CBC.

TABLE 5 DISTRIBUTION OF POSTERS & NOTICES

Through volunteers:	Through head offices:
CANADA SAFEWAY (11)	VITA HEALTH (3)
McDIARMID LUMBER (2)	MB LIQUOR CTRL COMM (20)
SUPERIOR PROPANE (1)	7-ELEVEN STORES (32)
DRAKES SALAD BAR & DELI (1)	WPG PUBLIC LIBRARIES (21)
SCOOP AND WEIGH (1)	BEAVER LUMBER (4)
COMMUNITY HARVEST COOP (1)	CANADIAN TIRE (7)
NEW TASTE BAKERY & DELI (1)	UNISYS CANADA INC. (10)
BEHNKE'S GREENHOUSE (1)	
VILLAGE PANTRY (1)	

MANITOBA ON-SITE

INFORMATION FOR APPLICANTS

WHAT IS ON-SITE?

ON-SITE is a project to place unemployed, skilled professionals with participating employers for a limited term to assist the employer with waste and environmental activities. It is sponsored and managed by Energy Pathways Inc. (EPI), an Ottawa based consulting company, and is funded by Employment and Immigration Canada (through Unemployment Insurance Section 25 Job Creation Program) with supplemental funds contributed by the private sector.

HOW DOES ON-SITE WORK?

ON-SITE works by matching up unemployed engineers, chemists, biologists, technicians and technologists with participating employers needing their services. These are companies, institutions or municipalities which have been identified as having waste management problems or opportunities. Employers who wish to participate are drawn from a wide range of industrial sectors, including general manufacturing; chemical processing; plastics; paints and coatings; electroplating; metals finishing; food and beverage processing; textiles; primary metals fabricating; and resource processing. Some employers are large but many are small or medium sized operations. What they have in common is a need or desire to improve their waste management practices.

ON-SITE workers are placed with these participating employers on a one-to one basis, and spend several months helping them analyze and solve their waste management problems. ON-SITE employees may become involved in the following activities:

- *researching and evaluating new processes and pollution control equipment
- * and strengthening in-house testing and monitoring systems for both quality control and pollution abatement
- *conducting feasibility and cost-benefit analyses
- *opening lines of communication between management, production, engineering, and maintenance staff
- *finding out the real costs associated with poor waste management, from the obvious(such as tipping fees and toxic waste treatment costs) to the hidden (such as inventory shrinkage, losses due to poor maintenance, transportation costs, energy, the costs of utilizing more materials than is required, and down-time due to injury etc.).

BENEFITS TO EMPLOYES

You are not obligated to work on a Section 25 project-you will continue to receive Unemployment Insurance (UI) benefits whether you work on this project or not. However their are many good reasons to work for ON-SITE:

Good Prospects for Permanent Employment

There is a good chance that your ON-SITE employer will offer you a permanent position at the end of your project.. Out of 800 project workers who have been employed in ON-SITE across Canada to date, one in four were kept on by participating employers in newly created positions, and over half found permanent jobs with other employers in the environment "industry".

Experience

ON-SITE can provide you with meaningful job experience in waste and environmental management. Whether or not you find permanent employment with your ON-SITE employer, this experience will help you in planning your career and will increase your chances of obtaining another position in waste management.

REPORT OF THE
1988 WINNIPEG HOUSEHOLD HAZARDOUS WASTE DAYS

APPENDIX B

RECOMMENDATIONS

The following selection of recommendations was forwarded by Household Hazardous Waste Days volunteers and organizers:

1. Media

   Some members of the media informed volunteers that they had been given no prior knowledge of HHW Days, and would have covered the Opening or provided special coverage if informed. In the future, all media should receive a press kit well in advance, and a follow-up reminder close to the start of the event.

2. Posters & Notices

   A better poster is required, with address, dates and times clearly apparent.

   Rather that do a door-to-door poster blitz, it is more efficient to contact corporate head offices, and ask them to internally distribute notices to their branches.

   A list of other businesses to contact has been compiled, and can be easily contacted according to the method above.

   Small, inexpensive flyer/notices should be sent with water utility billings. Water bills are regionalized (e.g. cities, towns or municipalities). Since HHW Days are usually local, this is an appropriate means for distribution.

3. Site

   Due to record-breaking crowds at this year's project in Winnipeg, a larger site with better vehicle accessibility is necessary.

4. Volunteer Posts

   Shelter/shade is required for all front-line volunteer stations if this event is to be held outdoors again (e.g umbrellas, tents, etc.).

5. Volunteer T-Shirts/Caps

   Some thought should be given to some inexpensive t-shirts for the volunteers working at HHW Days.

   Baseball cap design could match

6. Banner

   A new initiative in 1988, the banner proved very successful and cost-effective promotional tool.

   The concept of Corporate sponsorship should not be ignored (e.g. the waste handling/transportation contractor).

7. Volunteer Shifts

Many volunteers worked a minimum of 8 hours at a time, and some volunteers worked the entire duration of HHW Days (>18 hours) which is far too long.

Each job should be divided into 4 hour shifts.

More volunteer help is required; volunteers have identified additional positions to ensure maximum efficiency (e.g. front-line sorters, floaters, traffic controllers, etc).

Certain non-technical positions can be filled by other volunteer sources such as:

1. the civic sanitation workers union
2. City of Winnipeg Fire Fighters (&/or union)
3. Fire Fighters burn fund
4. Age and Opportunity centre

8. Questionnaire

The participant questionnaire should be significantly reduced in length and content for subsequent events.